

**RESPONSE TO COMMENTS ON THE
DRAFT VEGETABLE SAMPLING DESIGN FOR
PHASE III FIELD INVESTIGATION
VASQUEZ BLVD. AND I-70 SITE**

ENVIROGROUP LIMITED

General Concern #1

There is no need to place samples on ice to avoid degradation of the contaminants of potential concern (arsenic and lead). However, to assess risks from ingestion it is necessary to know the relationship between dry weight and fresh plant weight. The plans should be revised to address the determination of fresh weight and dry weight.

Response

The plan has been revised to include a measure of fresh weight for each vegetable sample as suggested. While we understand that thermal preservation is unnecessary for the target analytes (arsenic and lead), the vegetable samples will be stored on ice after collection for transport to the analytical laboratory. This will ensure that the samples remain as fresh as possible so that an accurate fresh weight measurement will be obtained.

General Concern #2

The mathematical model(s) used to model the uptake of metals by plant may require supplemental data such as soil cation exchange capacity, soil pH, or the amount of organic matter. Therefore, the mathematical model(s) to be used to model metals uptake should be identified so that any necessary additional data can be provided. Similarly, the analytical methods to be used to obtain supplemental data should be identified.

Response

We agree that modeling metal uptake by plants is a complicated process. However, we have worked to simplify this model to a univariate analysis for the following reason. Based on the limited site-specific data set available to date (USEPA 1999) and based on our experience from other sites, ingestion of garden vegetables is not expected to be a significant exposure pathway (at least where direct ingestion of soil is not already significant). Therefore, we do not wish to complicate the model by including the suggested additional soil characterization parameters and cation exchange capacity, pH and organic matter will not be added to the list of target analytes.

General Concern #3

A composite soil sample should be collected to represent the soil associated with each type of vegetable in each vegetable garden. Similarly, a number of samples of each type of vegetable should be collected and analyzed from each garden and the 95% upper confidence level for the mean determined to provide a upper level value. Alternately, paired discrete soil and vegetable samples should be collected.

Response

Paired discrete garden vegetable and soil samples will be collected as suggested.